

**CMP SH1-4LE**

**SURFACE MOUNT SILICON  
HIGH CURRENT  
LOW  $V_F$ , LOW LEAKAGE  
SCHOTTKY RECTIFIER**



[www.centrasemi.com](http://www.centrasemi.com)



**SOT-23F CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMP SH1-4LE is an Enhanced high current, low leakage, low  $V_F$ , Schottky rectifier in a surface mount SOT-23F package. It is suitable for all applications requiring premium performance in a small sized, high current Schottky rectifier that offers both very low  $V_F$  and leakage current specifications.

**MARKING CODE: CSE****APPLICATIONS:**

- Load/Power switches
- Power supply converter circuits
- Battery powered equipment including cell phones, digital cameras, pagers, PDAs, etc.

**FEATURES:**

- Current ( $I_F=1.0A$ )
- Low forward voltage drop ( $V_F=0.39V$  MAX @ 1.0A)
- Low reverse current (150 $\mu A$  TYP @  $V_R=20V$ )
- Small, surface mount, power SOT-23F package

**MAXIMUM RATINGS:** ( $T_A=25^\circ C$ )

Continuous Reverse Voltage  
Average Forward Current  
Peak Forward Surge Current,  $t_p=8.3ms$   
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

**SYMBOL**

| SYMBOL         |             | UNITS        |
|----------------|-------------|--------------|
| $V_R$          | 40          | V            |
| $I_O$          | 1.0         | A            |
| $I_{FSM}$      | 20          | A            |
| $P_D$          | 350         | mW           |
| $T_J, T_{stg}$ | -65 to +125 | $^\circ C$   |
| $\theta_{JA}$  | 286         | $^\circ C/W$ |

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ C$  unless otherwise noted)

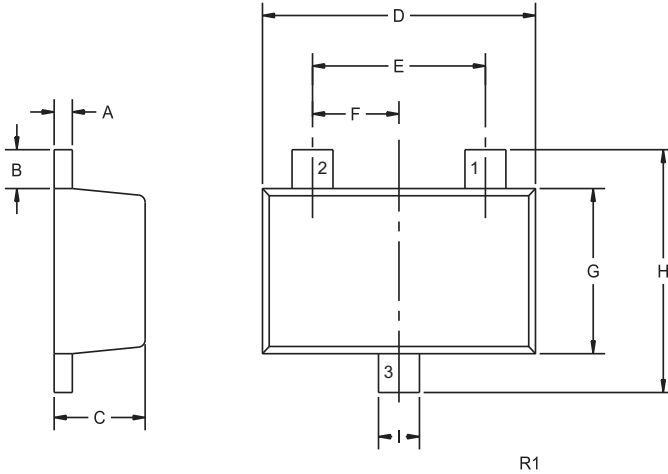
| SYMBOL | TEST CONDITIONS     | MIN | TYP | MAX | UNITS   |
|--------|---------------------|-----|-----|-----|---------|
| $I_R$  | $V_R=5.0V$          |     | 60  | 200 | $\mu A$ |
| $I_R$  | $V_R=10V$           |     | 85  | 300 | $\mu A$ |
| $I_R$  | $V_R=20V$           |     | 150 | 500 | $\mu A$ |
| $I_R$  | $V_R=30V$           |     | 250 | 800 | $\mu A$ |
| $I_R$  | $V_R=40V$           |     | 350 | 900 | $\mu A$ |
| $BV_R$ | $I_R=1.0mA$         | 40  |     |     | V       |
| $V_F$  | $I_F=100mA$         |     |     | 300 | mV      |
| $V_F$  | $I_F=500mA$         |     |     | 350 | mV      |
| $V_F$  | $I_F=1.0A$          |     |     | 400 | mV      |
| $V_F$  | $I_F=1.5A$          |     |     | 450 | mV      |
| $C_J$  | $V_R=10V, f=1.0MHz$ |     | 50  |     | pF      |

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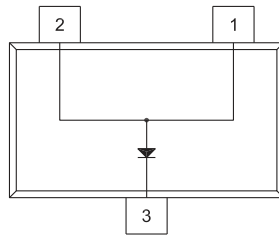
**SOT-23F CASE - MECHANICAL OUTLINE**



| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.004  | 0.008 | 0.10        | 0.20 |
| B          | 0.012  | 0.020 | 0.30        | 0.50 |
| C          | 0.031  | 0.039 | 0.80        | 1.00 |
| D          | 0.110  | 0.118 | 2.80        | 3.00 |
| E          | 0.075  |       | 1.90        |      |
| F          | 0.037  |       | 0.95        |      |
| G          | 0.059  | 0.067 | 1.50        | 1.70 |
| H          | 0.091  | 0.098 | 2.30        | 2.50 |
| I          | 0.014  | 0.018 | 0.35        | 0.45 |

SOT-23F (REV: R1)

**PIN CONFIGURATION**



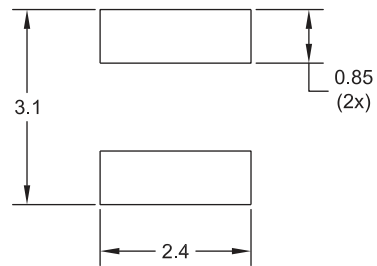
**LEAD CODE:**

- 1) Anode
- 2) Anode
- 3) Cathode

**MARKING CODE: CSE**

**OPTIONAL MOUNTING PADS**

(Dimensions in mm)



R0

(For standard mounting pads  
see SOT-23F Package Details)

R4 (21-September 2015)

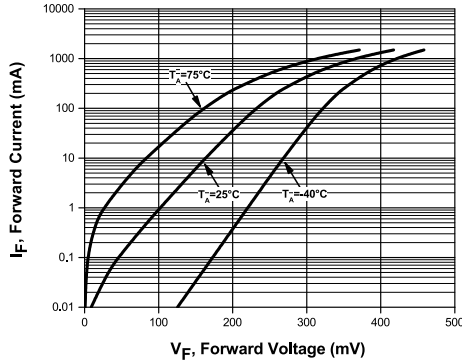
**CMPSH1-4LE**

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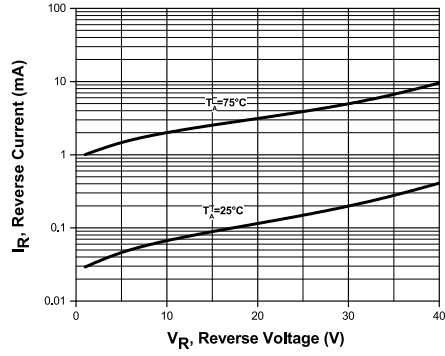


**TYPICAL ELECTRICAL CHARACTERISTICS**

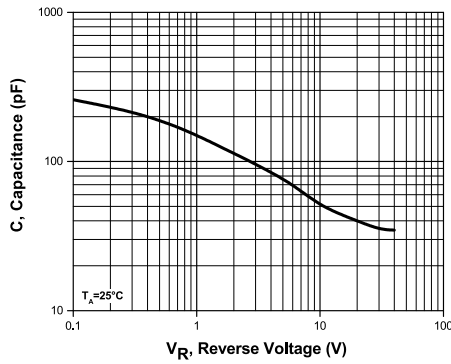
**Forward Voltage**



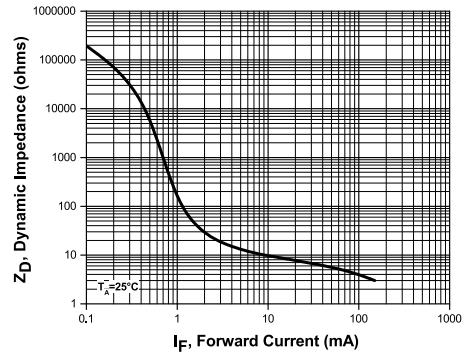
**Leakage Current**



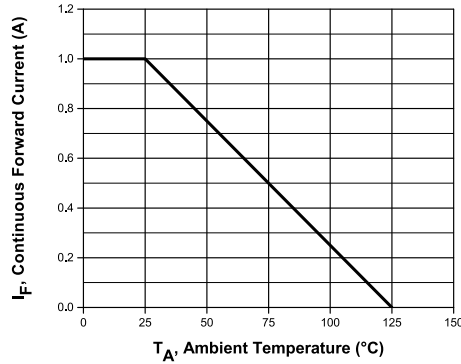
**Capacitance**



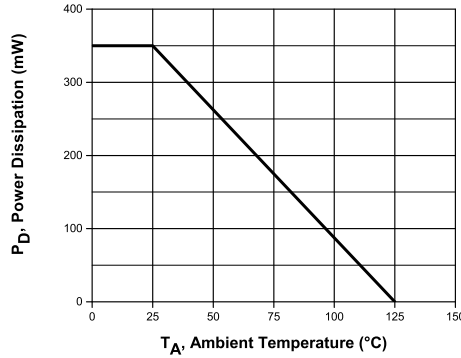
**Forward Dynamic Impedance**



**Current Derating**



**Power Derating**



R4 (21-September 2015)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

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# Product End of Life Notification

|                           |          |
|---------------------------|----------|
| <b>PDN ID:</b>            | PDN01160 |
| <b>Notification Date:</b> | 8/11/20  |
| <b>Last Buy Date:</b>     | 2/11/21  |
| <b>Last Shipment Date</b> | 8/11/21  |

Summary: All devices manufactured in the SOT-23F package are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

**\* All Plating types (PBFREE, TIN/LEAD) for each item listed is included in this notice.**

| <u>Central Part Number</u> | <u>Replacement</u> |
|----------------------------|--------------------|
| CEN1232 BK                 | N/A, Stock Only    |
| CEN1232 TR                 | N/A, Stock Only    |
| CEN1233 BK                 | N/A, Stock Only    |
| CEN1233 TR                 | N/A, Stock Only    |
| CMPSH05-4C BK              | N/A, Stock Only    |
| CMPSH05-4C TR              | N/A, Stock Only    |
| CMPSH1-4 BK                | N/A, Stock Only    |
| CMPSH1-4 TR                | N/A, Stock Only    |
| CMPSH1-4L BK               | N/A, Stock Only    |
| CMPSH1-4L TR               | N/A, Stock Only    |
| CMPSH1-4LE BK              | N/A, Stock Only    |
| CMPSH1-4LE TR              | N/A, Stock Only    |

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centrasemi.com](mailto:engineering@centrasemi.com).

**DISCLAIMER:** This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.